

奠定離岸風力基礎建設與避免財務風險

Advisory

Dec 27, 2017



風險評估與合理配置

主要風險因子

- 法律架構 — Legal
- 工程技術 — Technical
- 財務架構 — Financial Model - Accounting and tax
- 保險計畫 — Insurance
- 市場風險 — Market



階段性執行議題-德國市場經驗

2006

1 併網許可
2 融資來源
3 籌設許可
4 饋線及併網容量
5 營運期的保險

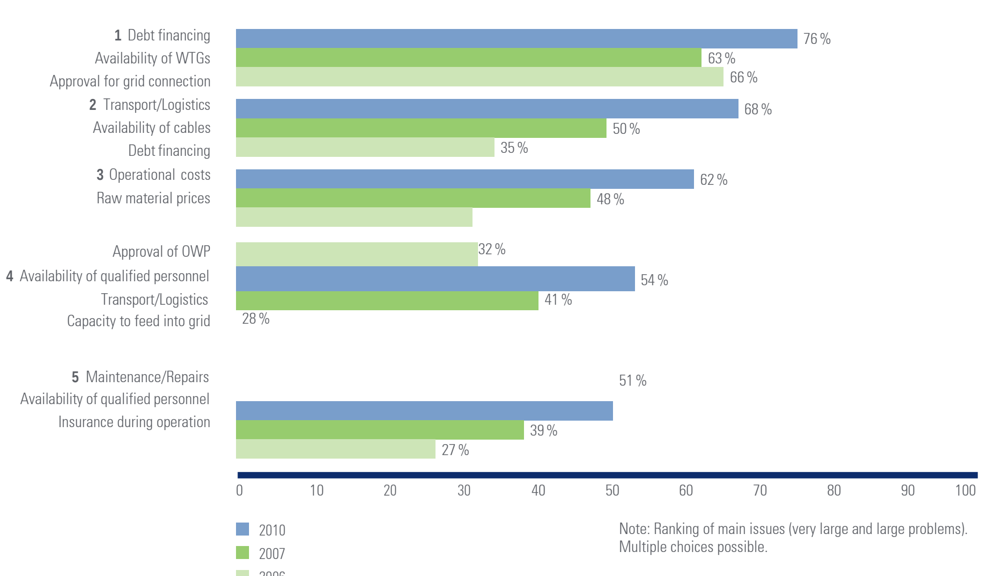
2007

1 風機供應能力
2 饋線及容量配置
3 原物料價格
4 運輸及物流
5 業界人才短缺

2010

1 融資來源
2 運輸及物流
3 營運成本控制
4 業界人才短缺
5 維運及維修







基礎建設生命週期

Integrated Infrastructure Delivery ❯ Financial & Organizational Efficiency

Tech Disruption
Politics
Market Disruption
Public

Metrics and Incentives
Management Processes
Organization
Roles and Structure
Information Flow and Tools
Organization
Governance

Existing Infrastructure
Asset portfolio improvement
Funding for new investments
Asset Management
Enabling Systems
Asset compliance
Asset review

Start

New Infrastructure
Project Funding & Financing
Project Delivery & Oversight
Project Procurement
Enabling Systems
Project Feasibility & Selection
Project identification & strategy



市場角色區隔圖示

Financial focus / Depth | **Technical focus / Depth**

Long-Term Interest (10~25 y)

- Utility
- Pension Fund
- Infrastructure Fund
- IPP
- Vertically Integrated Firm
- Insurance
- Commercial PV Owner
- Inverter Manufacturer

Mid-Term Interest (5~10 y)

- Bank (debt financing)
- Fund Aggregator
- Individual Investor
- Fund Manager
- Tax Equity Investor

Short-Term Interest (1~5 y)

- Bank (repossessed assets)
- Asset Manager
- O&M Provider
- Developer
- EPC

Legend:

- ○ Market actor with ownership interest in the asset
- ◇ Market actor with non-ownership interest in the asset. (service contract, warranty…)
- Financial Focus / Depth
- Technical focus / Depth
- Both

Source : Megawatt - Scale PV O&M and Asset Management : Services, Markets and Competitors 2014-2018
Figure credit : 3megawatt GmbH and SoliChamba Consulting



資金來源

直接金融

直接金融

間接金融

間接金融

專案融資

融資工具屬性

彈性

企業融資
Corporate Financing

財務槓桿融資
Leverage Financing

專案融資
Project Finance

公私合夥制度PPP /
政府購買公共服務型PFI

政府公債

融資槓桿



專案融資與企業融資







Project Finance — **Features** — **Corporate Finance**

Project Finance	Features	Corporate Finance
配合專案屬性長期資金需求	**Stage**	設立初期或營運資金需求
現金流量評估	**Proof of concept**	收入面及商業評估
風險合理分配	**Risk**	經營風險較高
專案的資產	**Collateral**	公司資產及股東擔保
財務模組中的現金流量基礎	**Decisional basis**	資產負債表基礎
股權包括各種直接投資，包括夾層融資債務、現金或其他形式的資金	**How equity is defined**	有投票權之股權（普通股與優先股）
金融機構靠單一專案資產的現金流量（項目）進行還款	**Financing**	期望公司資產負債表和預測的整體營運，非來自單一資產
① 沒有 / 有限擔保專案融資債務 ② 專案合約通常是貸款人的主要擔保要件；項目公司的實體資產 < 債務金額	**Security**	① 公司所有資產均可用於擔保 ② 除獲得從營運獲得的全部現金流作為擔保外，還有其他足額擔保品
項目的合約期間有限，因此債務會設計在這個期間內結束之前償還	**Duration**	假設公司正常無限期經營
貸款人會嚴格控制項目公司的營運活動，確保項目價值不受損害	**Control**	公司的營運管理階層可以合適彈性的經營



專案融資



專案
融資





業者或地主

EPC 業者

O&M 業者

保險公司

電力公司

股 東

Hold Co

SPC

政府機關

主辦 (參貸) 銀行

Credit Enhancements

專案融資特性

- 可以專案未來產生之現金流量為唯一還款來源
- 以專案所屬資產及權利作為擔保
  - ✓ 可處分擔保回收部分債權
  - ✓ 可行使介入權
- 有限追索權或無追索權

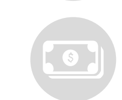


專案融資(歐洲風電市場)









Non-recourse debt within new asset financing 2010 – 2016

(bn EUR)

14
12
10
8
6
4
2
0

	2010	2011	2012	2013	2014	2015	2016
Contingency budget spent (% of budget at Financial Close)	75%	124%	47%	<10%	9%	N/A	N/A
Contingency budget spent (% of CAPEX)	7%	12%	7%	<1%	1%	N/A	N/A


Source: WindEurope



最近案例 - Offshore Wind







Deutsche Bucht ("DeBu") project



- Aug, 2017 reach financial closed and the project completion expected by the end of 2019
- A 252 MW offshore wind farm which will be located in the German North Sea

Type of transaction / Amount / Price



- **PF — EUR 988 million**
  non-recourse construction and term loan ; 12 y maturity
- **Euribor +180 bp**
  (all-in below 300 bp)

The lending group comprises

- Banco Santander, CIBC, Commerzbank, Helaba, KfW IPEX-Bank, National Bank of Canada, Natixis, Rabobank, Société Générale, and Sumitomo Mitsui Banking Corporation

FIT

- **13 y PPA**
- **EUR 184 / MWh for 8 years**
- **EUR 149 / MWh for the remainder**

Project location



Distance from coast

Approx. 95 km

Shareholders

100 %

Northland

CAPEX

1.3 billion

approximately EUR 1.3 billion

Size

MW / Turbines



252MW / 31 x MHI Vestas V164-8.0 WTGs

Source: Infrastructure Journal



資本市場(歐洲風電市場)

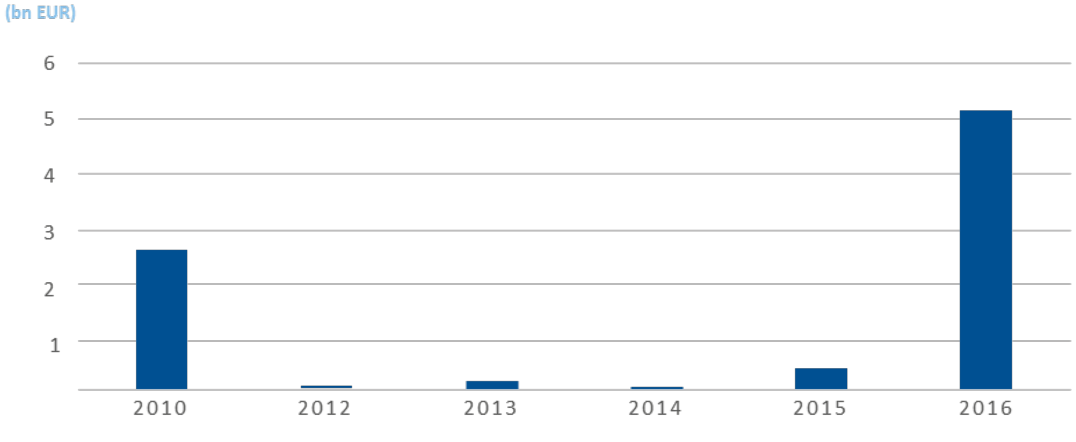




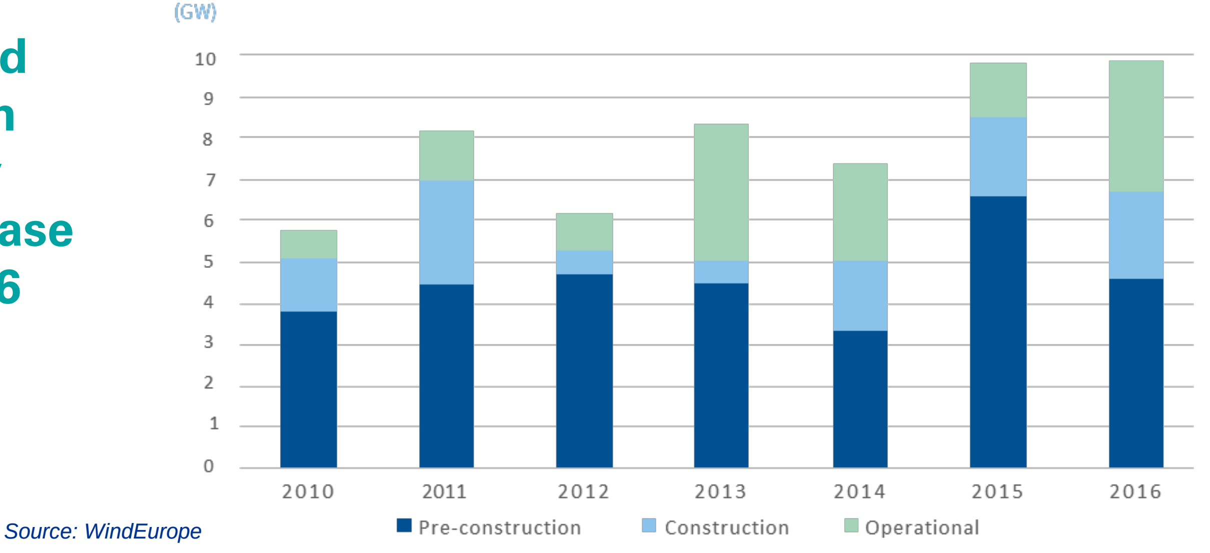


直接
金融

Initial Public Offerings 2010 – 2016



Merger and acquisition activity by project phase 2010 – 2016



Source: WindEurope



特許公司 IPO 議題







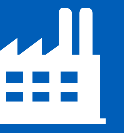
直接
金融



一般上市條件



科技事業或
文化創意事業



國家經濟建設
之重大事業

政府獎勵民間參與
之重大公共建設

特許公司辦理上市

上市審查準則第 6 條之一 特許合約相關條件

- 公司係為取得特許合約所新設立之公司，且其營業項目均經中央目的事業主管機關之核准
- 取得特許合約之預計工程計畫總投入成本達 200 億元以上者
- 申請上市時，其特許營運權尚有存續期間在 20 年以上者

特許公司辦理上櫃

參與公共建設之民間機構申請股票上櫃之補充規定

- 實收資本額達新台幣 25 億元以上者。
- 申請上櫃時，其特許營運權尚有之存續期間在 15 年以上者。
- 取得特許合約預計工程計畫總投入成本達新台幣 50 億元以上者
- 申請公司之主要股東或經營者須具備履行特許合約所需之技術能力、財力及其他必要之能力，並取得核准其特許權合約之機構所出具之證明者。



基礎建設
成功之鑰



基礎建設成功之鑰

持續性政治支持

低政治風險

公共部門執行能力

成功之鑰

可預測和可持續的交易市場

資金籌措能力

合理的基礎建設預算 / 付費規劃



KPMG - A trusted financial advisor in the renewable energy space

KPMG has end-to-end capabilities in delivering solutions that help our clients address their needs and challenges across the renewable energy value chain and throughout the project lifecycle

Strategy & Planning › **Pre-feasibility** › **Structuring & Financing** › **Procurement & Construction** › **Operations**



Strategic & Transaction Advisory	Project Execution & Management	Operations & Performance

Strategy, Growth & Development

- Feasibility study
- Procurement strategy
- Tariff analysis
- M&A and JV / Partnership Strategy
- Bidding management (PMO)

Organizational Readiness

- Commercial framework analysis
- Risk management
- Regulatory management
- HR / IT capabilities

Structuring & Financing

- Project structuring
- Financing
- Tender process / Bid advisory
- PPP advisory
- Financial modelling

Delivery & Construction

- Contract management
- Project monitoring & control
- Dispute & claims
- Procurement execution

On-going Value Creation

- Hedging strategy
- Power contract management
- Operating model
- Tax optimization
- Accounting & reporting

Divestment and cash cycle

- Exit strategy & asset divestment
- Valuations
- IPO advisory
- Restructuring and refinancing





Thank you

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